

ABSTRACT

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Network units such as switches for use in a cascaded stack are organised to provide a cascade connection in the form of a dual unidirectional connection so that, in its ordinary configuration, there is at least one and preferably more than one unidirectional ring for each direction around the cascade, each ring including a respective port on each unit. For each ring, each port on a unit is connected by a respective link to a corresponding port on the preceding unit and the following unit. The units provide a self-healing operation in the event of various kinds of operational failure. The self-healing operation includes loop-back of packets in units adjacent the failure and bypass of a packet switching process for other units. The units include control logic for passing control frames containing status information relating to the units and links between them and for co-operation with a CPU to control a switching engine to perform the self-healing operation in accordance with that status information. The units forward on the cascade packets with headers that identify a destination port and the unit on which that port is located and also indicate which units have and have not been traversed by a packet.

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